97-84098-23

U.S. Bureau of Foreign and Domestic Commerce.

Methods of handling lumber...South Africa

Washington

1931

97-84098-23
MASTER NEGATIVE #

COLUMBIA UNIVERSITY LIBRARIES
PRESERVATION DIVISION

BIBLIOGRAPHIC MICROFORM TARGET

ORIGINAL MATERIAL AS FILMED - EXISTING BIBLIOGRAPHIC RECORD

308
Z
Box 334 U. S. *Bureau of foreign and domestic commerce (Dept. of commerce)*
... Methods of handling lumber imports in South Africa. Washington, U. S. Govt. print. off., 1931.
iv, 41 p. incl. tables, form. 24½cm.
At head of title: U. S. Department of commerce. R. P. Lamont, secretary. Bureau of foreign and domestic commerce. William L. Cooper, director.
1. Lumber trade—Africa, South. I. Title.
Library of Congress HD9767.A3U6 1931 31-20422
——— Copy 2. [3] 338.4

RESTRICTIONS ON USE: *Reproductions may not be made without permission from Columbia University Libraries.*

TECHNICAL MICROFORM DATA

FILM SIZE: 35mm REDUCTION RATIO: 11:1 IMAGE PLACEMENT: IA (IIA) IB IIB

DATE FILMED: 5/27/97 INITIALS: TLM

TRACKING # : 24383

FILMED BY PRESERVATION RESOURCES, BETHLEHEM, PA.

FEB 1 9 1931

U. S. DEPARTMENT OF COMMERCE
R. P. LAMONT, Secretary
BUREAU OF FOREIGN AND DOMESTIC COMMERCE
WILLIAM L. COOPER, Director

METHODS OF HANDLING LUMBER IMPORTS IN SOUTH AFRICA

308
Z
Box 334

UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON : 1931

LUMBER DIVISION

The Lumber Division of the Bureau of Foreign and Domestic Commerce is organized to give assistance to the trade in lumber and forest products. It is staffed by men with years of practical experience in the merchandising of lumber. Through the oversea representatives of the Departments of Commerce and State, it is in close touch with the world's markets. The division gives American exporters a detailed and comprehensive service of foreign market information and sales assistance and guidance. Special assistance is given to the domestic lumber trade.

NATIONAL COMMITTEE ON WOOD UTILIZATION

The National Committee on Wood Utilization of the Department of Commerce, organized by Herbert Hoover, as Secretary of Commerce, comprises about 200 members, representing manufacturers, distributors, and consumers of lumber and wood products. Its object is to work for closer utilization of our country's timber resources. The committee, whose headquarters are in the Department of Commerce, Washington, D. C., works in close cooperation with a number of official and private organizations, notably the Bureau of Standards of the Department of Commerce and the Forest Products Laboratory of the Forest Service, Department of Agriculture. The committee is working for the elimination of waste in the entire range—production, distribution, and consumption—of forest products, and for coordination of the various branches of the forest industries, with the sawmill as the center, to permit one branch to utilize raw materials discarded by another. Special study is given to adoption of improved machinery for decreasing wood waste.

Cor 7/31 OD

INTRODUCTION

This bulletin is one of a new series prepared by the Lumber Division of the Bureau of Foreign and Domestic Commerce in revision of the original series issued in 1923 on methods of handling lumber imports in foreign countries. It is based on reports made by consular officers of the State Department and oversea representatives of the Department of Commerce. This bulletin is a revision of the South African section of Trade Information Bulletin No. 119, Methods of Handling Lumber Imports in Africa. It covers the Union of South Africa and Portuguese East Africa, the latter because about seven-eighths of its gross receipts of lumber and lumber manufactures are transit shipments, particularly for the Transvaal and Northern and Southern Rhodesia.

In each country the established methods of handling imported lumber are set forth and the operations of agents, importers, and dealers are described. The purchasing policies of large consumers and the governments and the established terms of sales are indicated. The lumber division recommends that established methods of importing lumber be followed, as it has been found that the best way to build up a permanent trade is to handle the business by the methods that have grown up in each country. Shipping lumber on consignment is to be discouraged.

Current import-trade methods are covered in the bureau's general bulletins on lumber for the United Kingdom, the Netherlands, Belgium, France, Switzerland, and Japan. In 1929 the new series of "methods" bulletins was instituted, the first covering South America and the second Germany, Spain, and Italy. Other important foreign markets for lumber will be covered by later bulletins in this series.

UNITED STATES EXPORTS OF LUMBER TO SOUTH AFRICA, 1929

Class	Union of South Africa	Other British South Africa	Mozambique
Logs and hewn timbers:			
Hardwood logs and timber, M feet	9		
Southern pine, do	343		2,584
Railroad ties:			
Hardwood, number	500		
Softwood, do	6		
Creosoted or otherwise preserved, do	500		
Telegraph, trolley, electric-light poles, do	36		
Sawed timber:			
Total sawmill products, value	$1,172,759	$33,456	$300,753
Southern pine, M feet	3,869		2,274
Douglas fir, do	2,230		625
Other softwoods, do	18		
Boards, planks, scantling, softwood:			
Douglas fir, rough, do	6,896		683
Douglas fir, dressed, do	856		433
Southern pine, rough, do	334	447	145
Southern pine, dressed, do	86	203	
Cypress, do	18		
White, western, and sugar pine, do	4,087		1,666
Cedar, do	12		12
Redwood, do	230		33
Spruce, do	2		
Hemlock, do	34		
Small softwood dimension stock, do	40		
Other softwood, do	39		
Total softwood, do	12,334	650	2,972
Boards, planks, scantling, hardwoods:			
Ash, do	609		21
Birch, do	3		
Chestnut, do	27		
Cottonwood, do	13		
Gum, red and sap, do	389		
Gum, Tupelo and black, do	16		
Hickory, do	9		
Oak, do	4,092		4
Poplar, do	322		15
Walnut, do	73		
Mahogany, do	76	10	35
Small hardwood dimension stock, do	25		
Other hardwoods, do	10		
Total hardwoods, do	5,664	10	75
Other sawed lumber, do	2,877		
Shingles, thousands	62		
Total wood manufactures, value	$454,868	$1,203	$40,276
Cooperage:			
Staves, tight, number	113,120		
Staves, slack, do	14,200		
Tight heading, sets	136		
Shooks, tight, do	300		100
Tight empty barrels, casks, and hogsheads, number	3		
Box shooks:			
Pine, board feet	1,790		
Other, do	1,450		
Veneers, square feet	267,517		
Plywood, do	566,992	4,230	3,240
Hardwood flooring, M feet	94		
Doors, number	44,263		5,407
Sash and blinds, do	3,600		
Trimmings and moldings, linear feet	543,683		
Other millwork, value	$98		

METHODS OF HANDLING LUMBER IMPORTS IN SOUTH AFRICA

PRODUCTION, IMPORTS, AND CONSUMPTION

American Trade Commissioner DuWayne G. Clark, Johannesburg

Only a small proportion of the lumber consumed in South Africa is obtained from native sources. The Union of South Africa is comparatively poorly timbered; the country forests which do exist may be classed as dense timber forest and scrub forest. The scrub growth, which seldom offers trees large enough to be sawn into lumber, does constitute a source of supply for such uses as fuel and fence posts, and much of the material used in timbering the mines is also secured from these growths. The stands of real merchantable timber, which occur in rather isolated instances, are confined to the coastal areas of the Union, being generally found on the seaward slopes of the mountains, within 100 miles of the coast. The spotty distribution of these stands extends from the Cape Peninsula in the southwest to the Zoutpansberg Mountains in the northeast.

Approximately 800,000 acres of the Union are under dense forest, of which about 75 per cent belongs to the Government. A considerable proportion of this timber consists of the so-called yellowwood (*Podocarpus thunbergii* and *Podocarpus elongata*), which is used for rough construction work and wagon building and to some extent for furniture and railway ties. There are some 300,000 acres of black wattle trees, cultivated for the bark, which is used as a tanning agent. The heart timber from this species is used extensively by the mines. There are, as well, about 400,000 acres planted to eucalyptus, pine, and poplar in an effort to develop local resources of merchantable timber, while other indigenous species include ironwood and white pear used for wagon stock, stinkwood (*Ocotea lawrifolia*) which is a popular furniture wood, and assegai used for wagon spokes and poles.

The only domestic species exported from the Union are the Cape box (*Buxus macowani*) and the kamassi (*Gonioma kamassi*), the latter being the more important because of its use, particularly in Europe, for the manufacture of shuttles for the textile industry.

A very determined effort is being made by Government officials to promote and stimulate the more extensive use of the domestic-grown timber. Public buildings are, whenever possible, being constructed with the incidental use of stinkwood and yellowwood. These two species are, however, very hard to season; their natural tendency, unless properly prepared, is to check and split. The technical details of kiln drying these woods are apparently not yet fully developed.

During the last 10 years lumber imports into South Africa have shown a decided increase. This is partially due to the consequent need for dwelling accommodations, but more particularly to the rapid industrial expansion which has taken place. Domestic enterprise has been given every encouragement by the Government, and the

natural consequence has been an almost phenomenal building activity, with a concurrent heavy demand for lumber and wood products as well as other construction materials.

It should be kept in mind that although the Union of South Africa has an area of 471,917 square miles, its general development has been confined to certain well-defined population centers. For the year ended June 30, 1929, the estimated total population of the Union was 7,894,567, of which only 1,767,719 were Europeans or whites, 5,357,843 were natives, 186,309 were Asiatics, and 582,696 mixed and other non-Europeans. The population in the large consuming centers was as follows: Johannesburg 325,400, Cape Town 258,300, Durban 113,600, Pretoria 73,100, Port Elizabeth 60,000, Benoni 48,600, Bloemfontein 46,400, Germiston 43,600, East London 40,600, Pietermaritzburg 38,500, Kimberley 37,700, and Boksburg 37,100.

Building construction in large industrial plants, office structures, and apartments generally follows the established practices by the use of concrete in the erection of the framework. Facings usually consist of brick, concrete blocks, stone, and, in a few isolated instances, a stucco preparation. Doors, window frames, moldings, etc., are made of wood, although of late there has been a tendency toward metal. Floors in large building are made of either granolithic preparation or wood.

The average South African dwelling does not generally use as much lumber as a similar structure in the United States. The complete frame house is practically unknown in South Africa, the building practices being such as to encourage the use of brick, stucco, or stone. Roofs are covered with galvanized-iron sheeting in many cases, owing to the comparative cheapness of that material, while more expensive homes use tile and occasionally slate. The wooden shingle is seldom used. Doors, windows, interior trim, and floors are usually of wood, although in some instances granolithic composition is used in private dwellings.

LUMBER IMPORTS

The lumber business in South Africa is highly competitive in every line. The north European countries, more particularly Sweden and Finland, are the most important suppliers, with the United States, Norway, Russia, Canada, Japan, Australia, Burma, and the Philippine Islands also accounting for an appreciable share of the trade. Arrivals are unloaded at Cape Town, Port Elizabeth, East London, and Durban in the Union, while important quantities intended for the Transvaal are discharged at Lourenco Marques, Portuguese East Africa. Deliveries via Lourenco Marques are particularly important in the trade of Johannesburg, in view of the shorter rail route and consequent lower carrying charges, as compared with Durban, East London, or Port Elizabeth. Generally speaking, lumber and wood products consumed in the Cape Province are landed at Cape Town, Port Elizabeth, East London, and Durban, which are discharging points for their respective hinterlands; and all three serve Johannesburg as well. Lourenco Marques, as mentioned previously, serves Johannesburg and, to a large extent, the territories of Southern and Northern Rhodesia.

The value of lumber and wood products imported into the Union during 1929 amounted to $13,697,226, including both private accounts and for government stores. Of this total, $2,019,587 worth was from the United States. The total imports during 1928 amounted to $11,786,233, in 1927 to $12,361,040, and in 1926 to $10,556,182. The following tables indicate the more important imports during 1929, with countries of origin noted. All values in pounds sterling have been converted at par ($4.86).

IMPORTS OF UNMANUFACTURED WOOD INTO THE UNION OF SOUTH AFRICA, FOR PRIVATE ACCOUNTS AND GOVERNMENT STORES, 1929

[In board feet]

Countries of origin	Ash, bass, walnut, and mahogany	Jarrah and karri	Oak	Teak	Pitch pine	Other pine	Other unmanufactured wood
FOR PRIVATE ACCOUNTS							
United Kingdom	14,316		5,772	3,384	660	479,976	49,644
Canada						13,503,984	2,563,968
Australia	70,644	4,109,952	61,080			80,892	1,060,108
Kenya Colony				384			12,504
Tanganyika							47,364
India				3,009,132		180	77,040
Ceylon							10,188
Straits Settlements				35,700			40,620
British West Africa	26,880					1,548	2,244
Nigeria	21,144						372
British West Indies	5,052						540
Ethiopia							125,508
Austria							2,544
Argentina							264
Belgian Congo							4,608
Brazil							480
Cochin China							
Other French possessions				54,948			94,140
Cuba	5,556						756
Czechoslovakia						36,600	9,000
Denmark			3,732				
Estonia						704,352	266,952
Finland	103,860					52,081,728	2,154,228
France	228						156
Germany	8,592		2,114	336		7,524	8,652
Netherlands							3,648
Netherland East Indies				281,508			
Italy						21,360	70,536
Japan			3,995,160	186,696		5,124	106,620
Yugoslavia			24,360			41,484	9,636
Latvia						2,227,956	2,681,532
Lithuania							16,752
Norway						914,328	341,916
Philippines	5,988			17,412		3,816	497,496
Poland	25,260		4,752			179,736	
Portuguese East Africa	576			204		3,888	55,932
Russia						6,763,644	859,728
Siam				3,896,448			38,856
Sweden			15,660	8,940		36,164,736	1,872,420
United States	676,128		4,317,180	39,696	9,414,312	19,815,180	2,560,824
China							1,932
Total	964,224	4,109,952	8,430,820	7,534,778	9,414,972	133,037,736	15,991,708
Total value	$96,421	$213,227	$606,037	$1,096,090	$401,479	$4,332,456	$648,508
FOR GOVERNMENT STORES							
United Kingdom	5,732				94,188	(1)	14,796
Australia	628,048					(1)	
Austria						(1)	4,560
India				1,587,684		(1)	
Finland	288				313,236	(1)	24,576
Poland					14,412	(1)	
Sweden					1,070,904	(1)	
United States					448,812	(1)	
Total	634,068			1,587,684	1,941,552	(1)	43,932
Total value	$75,208			$388,068	$70,178	(1)	$3,042

[1] Included with pitch pine.

IMPORTS OF MANUFACTURED AND PARTIALLY MANUFACTURED WOOD INTO THE UNION OF SOUTH AFRICA, FOR PRIVATE ACCOUNTS,[1] 1929

Countries of origin	Flooring and ceiling, planed, tongued, and grooved	Other planed and grooved	Boxes and shooks		Cooperage	Handles	
			For fruit or vegetable produce	Other		For picks, shovels, and agricultural implements	For tools and others
	Board feet	*Board feet*	*Value*	*Value*	*Value*	*Value*	*Value*
United Kingdom	13,200	2,040	$1,463	$8,641	$20,422	$35,663	$5,827
Canada	124,128	756	948		642	9,107	1,560
India			306		488		
Kenya Colony	3,000						
Tanganyika	8,736		156				
Australia	30,888				660		311
Ceylon				180			
St. Helena					78		
Austria	7,512						
Belgium	9,000		92				
Czechoslovakia	10,656					627	
Denmark		780		1,584			
Finland	18,488,496		21,632	46,559	199		
France				19	51,404	10	
Germany	2,400			12,320	1,900	3,465	214
Greece			5				
Netherlands	720			1,332	1,744	5	
Italy	1,392			5			
Japan				92		126	
Yugoslavia			291				
Latvia	122,376		12,874	7,635			
Norway	5,285,952		29,607	111,770	7,178		
Poland	42,252			5,249	1,025		
Portugal					923		
Portuguese East Africa		72		423	160		
Russia	6,024				894		
Sweden	20,809,872	30,840	830,987	576,974	5,836	953	442
United States	1,484,220	90,360	58	345	37,587	81,993	9,297
Total quantity	46,450,824	124,848					
Total value	$1,835,296	$9,413	898,419	773,128	131,142	131,949	17,651

Countries of origin	Wagon stock	Joinery	Wood flour and wood wool (excelsior)	Plywood	Shingles	Sleepers (railway ties)
	Value	*Value*	*Value*	*Value*	*Value*	*Value*
United Kingdom	$1,336	$20,534	$102	$67,500	$4,592	
Canada	5,618	3,592				$19
India						10
Kenya Colony		326				42,769
Australia	5,560					184
Ceylon						160
Austria	73	15		83		
China				2,445		
Czechoslovakia	262	5				
Denmark				262		
Estonia				4,389		
Finland		345		6,930		
France			253	3,392		
Germany	2,522	8,991	24	5,788		
Netherlands		3,941	797	63,224		
Netherland East Indies						11,353
Italy		174				
Japan				12,087		
Yugoslavia				126		
Latvia				5,463		
Lithuania				2,712		
Norway		13,200	772	3,339		
Philippine Islands						19
Poland				87,038		3,324
Portuguese East Africa		82				597
Russia				19,280		
Sweden	277	109,515	37,048	3,587		
United States	56,575	119,065		29,646	6,464	
Total quantity			[2] 2,223,241		[3] 932,679	
Total value	72,224	279,785	38,996	317,289	11,056	59,131

[1] Imports of manufactured and partially manufactured wood for Government stores consisted of the following amounts: Flooring and ceiling, planed, tongued and grooved, 18,876 board feet from Sweden, and 767,304 board feet from the United States with total value of $11,479; railway ties from Australia valued at $997,169, from Netherland East Indies $182,348, and from Russia $5, a total value of $1,179,522.
[2] Pounds.
[3] Number.

IMPORTS OF HARDWOODS

As evidenced by the foregoing tables, South African imports of hardwoods are proportionately heavy as regards oak and teak. Large quantities of these two species are used by the domestic furniture manufacturing industry.

Oak is unquestionably the most popular hardwood imported. The variety coming from the United States, and more particularly the northern or Appalachian soft-textured oak, is very much in demand. For some years the United States shippers practically had the local market to themselves, but of late Japanese oak has offered severe competition. The latter variety has gained in favor because of its attractive grain, soft texture, and lighter weight. The weight consideration is particularly important as regards the inland manufacturing centers. Rail charges from any of the coast points are comparatively high, and the fact that the Japanese oak is lighter in weight than the American oak constitutes a decided advantage. One finds, therefore, that the furniture manufacturers in Johannesburg use Japanese oak, while the enterprises situated near to the port of delivery consume the larger portion of the American shipments.

Teak is the hardwood next in popularity, large quantities coming from India and the neighboring countries. Burma teak, which was at one time the most popular teak on the market, has now been quite definitely displaced by Siamese teak, owing to the inability of Burmese reproduction to cope with the expanding demand. The South African Railway workshops, which are now doing practically all their own coach work, are importing large quantities of the Siamese teak each year. The consistent increase which has been recorded in the imports of teak has been due to the fact that, after many years of trial, it has been found that this Asiatic wood will stand up under sudden weather changes and exposure to the hot, dry climate without twisting and checking.

Among the miscellaneous hardwoods which are imported into the Union in small quantities may be noted sap gum, magnolia, mahogany, black walnut, ash, hickory, and jarrah. Sap gum, mahogany, and black walnut are used in the furniture trade, but the demand for them is very restricted, and the chances of the demand increasing seem rather remote. Magnolia is used in small quantities for interior trim, while ash and hickory are consumed by the local automotive industry, by the carriage and wagon makers, and, to a certain extent, by makers of implement handles. Practically all the jarrah coming into the Union arrives in the form of railway ties. French West African shippers control the mahogany trade, the jarrah obviously comes from Australia, while the sap gum, magnolia, ash, hickory, and black walnut originate in the United States. It should be borne in mind that the actual trade in these woods, excepting jarrah, is so small as to be representative of only small and incidental ordering as compared with the major trade in oak and teak.

IMPORTS OF SOFTWOODS

North European pine, particularly that from Sweden, Finland, Russia, and, to a lesser degree, the other Baltic shippers, is the softwood consumed in the largest quantities by the local market. Three by nine-inch deals and all scantling sizes are imported in large quan-

tities. Generally speaking, this stock is well seasoned and up to prescribed grade. Of late, however, shipments have not been up to standard in a number of instances in the sense that a considerable amount of small-size lumber, obviously cut from small trees, has been received. Repeated attempts to obtain good joinery deals have not been productive of much success, owing partially to faulty grading but more especially to the fact that the superior stock which is available for shipment to South Africa—stock which is free from heart, partially clear of knots, of mild texture, cut from large trees—exists in only limited quantities.

This criticism of North European stock can be held as only incidental to the large volume of the general trade. One of the more recent developments has been the buying of Russian lumber through the Russian agency in London. This lumber, which is shipped direct from Archangel, has proved to be of good quality, well graded, and well seasoned, and indications would seem to point toward the probability of this trade increasing in the future.

Douglas fir, imported from both the United States and Canada, is becoming increasingly popular, particularly in the building and joinery trades. The demand for Douglas fir clears, edge grain and flat grain, both kiln dried and green, is increasing from year to year. The building and mining industries, which constitute the most important consuming agents of the merchantable grade, are fully cognizant of the advantages of the use of Douglas fir, especially in view of the very desirable dimensions which are obtainable. North European lumber can not be secured in lengths exceeding 20 feet, while Douglas fir is available in lengths over 40 feet, a great advantage when heavy construction work is being done.

Pitch (southern yellow) pine is another important lumber of commerce which is used in South Africa to a considerable extent. Its high resin content makes it a favorite with the mining industry, which finds it particularly adaptable in the construction of mine shafts, headgears, etc., which are subjected to serious wear and tear and exposure to moisture and other agents which produce rapid deterioration.

California white pine enjoys a steady demand, and appreciable quantities are sold in all sections of South Africa. Probably the most popular grade is No. 2 common. Clear sugar pine, as well as strictly clear white pine, is used for pattern making and by the local joinery trade. California redwood has not yet experienced any great demand. Some of it has been used for furniture and interior trim, owing to its soft texture and ability to take a good superimposed finish, but its price largely prevents its competing on equal ground with the species now being used for similar purposes.

CEILING AND FLOORING IMPORTS

North European ceiling, which in previous years was imported in large quantities, has declined in favor, being supplanted by other methods of construction, notably steel and plaster. Flooring, especially that from Sweden and Douglas fir from the Pacific northwest, is imported in large quantities, the pieces being tongued and grooved and of the usual specifications. Finland has recently entered this market as a seller of flooring stock, and the general character of the

Finnish products, their soft texture, fine grain, and good average quality, is expected to work to the disadvantage of the Swedish flooring. There is a certain amount of oak and teak used for flooring in the better-class residences and in some office buildings. but by far most of the flooring sold consists of north European pine in the usual sizes of 6 by ⅞ inch and 4½ by ⅞ inch.

IMPORTS OF JOINERY STOCK

Sweden and the United States are the most important suppliers of joinery stock. Window frames and stock doors are the most conspicuous products coming under this classification. Douglas fir stock doors have, in the past few years, found an appreciable demand in the Union, despite the disinclination of the average architect to call for stock sizes. Swedish doors have also become popular, but the superior construction of the Douglas fir product, the fact that it takes a beautiful stained finish, and its more pleasing design have given it favor.

Local joinery enterprises have recently tried several ways of combating this import trade. The assembly of imported joinery stock has also been tried with unsuccessful results. The domestic trade has been faced with the severe competition of steel windows and doors, the use of which is increasing. Repeated representations have been made to the Government, requesting increased duties on foreign joinery, as well as on steel products, and if the tariff protection is increased the local industry will be in a stronger position than it has hitherto enjoyed.

IMPORTS OF OTHER WOOD

The local veneer manufacturing has not shown much tendency to expand during the past few years. The two existing factories, one at Durban and the other at Cape Town, have largely confined their efforts to the production of veneer made from the domestic yellowwood, which is particularly difficult to work because of its tendency to check and curl; seasoning has not been developed to an extent to overcome that difficulty. The equipment of the two plants is modern, the slicing method being used, and while the domestic species have been largely used, an effort has been made to make veneer of teak and, to a very restricted degree, Douglas fir. However, the veneer produced up to the present has not been comparable in quality to the stocks imported from Europe and the United States. The cheaper grades of 3-ply, of both alder and birch, continue to be imported in appreciable quantities from Poland, Finland, and northern Germany. Douglas fir 3-ply also enjoys a fairly good demand, being used by the local joinery trade. Most of this Douglas fir plywood is shipped from America, although of late a well-manufactured German product has appeared on this market.

Wood poles are very seldom used in South Africa for telegraph, telephone, and electric-light standards. It has been found that the climate and such agents as the white ants (termites) usually make short work of untreated or nondurable wooden poles, which accounts for the almost universal adoption of the steel standard. In general

construction work some poles are used in scaffolding, but they are secured from domestic sources and are used again and again, the local practice being to tie a scaffold together rather than nail it, thereby prolonging the life of the materials used.

Wooden railway ties are employed to a certain extent, but the tendency during the last few years has been toward their replacement by iron and steel ties. However, there is a more or less steady commerce in ties from Australia, the imports of jarrah wood constituting the major portion of this trade. A certain number of ties cut from Rhodesian hardwoods are also used, but, generally speaking, the possibilities of further use of wood ties are not great. The Union Government has set up a tie mill in Cape Province, in the Knysna region, where it expects to exploit the domestic yellowwood supplies. The experiment to date, however, has not been a success.

WOOD-CONSUMING INDUSTRIES

FURNITURE INDUSTRY

As has been previously mentioned, the furniture-making industry is one of the more important wood-consuming agents in the Union. In the year ended March 31, 1927, there were 161 furniture factories in operation, which employed a total of 4,796 persons, of which number 2,382 were white. For that period the value of materials used was $3,675,015, while the value added by process of fabrication was $4,531,624, making the gross value of the factories' output $8,206,639. Besides the imported oak and teak, which are very popular, small quantities of mahogany, walnut, and other fine woods are used. The chief domestic species are stinkwood and yellowwood. The use of the local woods is, however, surrounded by a considerable amount of uncertainty because of the difficulty of satisfactory seasoning, as previously mentioned.

A certain amount of cheap furniture, such as bentwood chairs, is imported. Low-priced articles are often made from Douglas fir or north European pine, but so far as the fine wood products are concerned the domestic manufacturer has the market to himself.

CARRIAGE AND WAGON BUILDING

With the advent of the motor car, the imports of lumber for carriage and wagon building have fallen off somewhat, although some Australian spotted gum and Tasmanian hardwoods are still imported. A small part of this trade is also held by American ash. By far the greater proportion of the trade is supplied from the native timber supplies, the woods used consisting of yellowwood, assegai (*Curtisia fuginea*), black stinkwood (*Ocotea bullata*), ironwood (*Olea laurifolia*), and white pear (*Apodytes dimidiata*).

For the year ended March 31, 1927, there were 270 coach and wagon works in the Union, employing 2,756 persons, of whom 1,488 were whites. During the period under consideration, this industry consumed domestic timber worth $321,522 and imported timber worth $237,430. The products include wagons, vans, carts, buggies, and other vehicles. With the recent construction of a large motor-car assembling plant at Port Elizabeth, and with the prospect of a second in the near future, it would seem that the imports of woodwork for this trade will probably show an appreciable increase.

MINE CONSUMPTION

The Rand gold mines constitute the most important individual wood-consuming industry in the Union. This demand is of a more or less constant character, inasmuch as the gold production is in no way affected by temporary trade recessions which may influence construction of dwellings and consumption of furniture and other wood products.

During 1929 the value of timber and lumber purchased by the Rand mines amounted to approximately $3,000,000. This total value, of course, includes all lumber and timber used, from domestic sources as well as imported. The timbering of the mines constitutes the major demand, and for this purpose large quantities of native wattle, after the bark has been taken off, are used. Pitch pine and Dougas fir also find a steady demand. The latter, owing to its being available in long lengths, is used extensively in the overhead construction work.

The heavy and steady demands from the mines have, in the instances of the local supplies, made such inroads upon the available quantities that the buyers are finding it increasingly difficult to secure good timber at a comparatively low price. Efforts have been made to adopt certain Rhodesian hardwoods, as well as the Australian jarrah, to this purpose, but present indications do not promise much success.

MISCELLANEOUS CONSUMING INDUSTRIES

In addition to the more important consuming industries, there are a number of minor uses which, in the aggregate, account for a very appreciable quantity of lumber.

The fruit and vegetable production of the Union creates a demand for box shooks, which have been coming largely from Sweden and other north European countries. An effort is now being made to create a forest which will contain timber suitable for sawing into box lumber. However, this scheme is in its infancy, and the present imports of box shooks should continue for some years and even increase with the expansion of the Union's fruit industry.

The import trade of such stock as handles, dowels, etc., forms another important consideration. The United States is the most important source of handles used in the manufacture of brushes and brooms and as replacement parts for tools. There is no domestic timber which has been found suitable for this purpose, nor is there likely to be any producing industry developed in the near future. Dowels for the furniture trade are imported from the United States and northern Europe. Miscellaneous woodenware is used to a certain extent; the wood consumed in the local toy industry is almost negligible; while the demands of the textile factories are largely supplied from oversea sources. Picture framing is received in small quantities, while the cooperage trade, which is largely involved in

making barrels and casks for breweries, etc., imports approximately four-fifths of its primary materials, which are fitted and set up in the local factories.

The use of lath is not extensive because of the prevailing construction principles which allow the application of plaster upon the rough brick or stucco wall. Lath is sometimes used in better-class structures, but its popularity is by no means widespread.

Wooden shingles are almost unknown in South Africa. The economy of an iron roof is a consideration which can not be disregarded, while those who can afford a more expensive roofing usually turn to tile or slate, either of which is in strict accord with the style of architecture. In several isolated instances wood shingles have been used, more or less as an experiment, and the results and comments have been most favorable. Shingles might find a comparatively good market in Africa in competition with tile, particularly in view of the fact that, after some of the heavy hail storms to which the country is subject, it is not uncommon for an owner to have to replace 50 to 100 tiles at one time, a rather expensive maintenance item.

There is very little wood used in the manufacture of sporting goods, and paving with wood blocks is unknown. The consumption of lumber by shipbuilding industries is limited to those repairs which are absolutely necessary at the moment a ship is in the African waters.

Imports of such packing materials as cork dust, sawdust, etc., are very small and merit no consideration. Imports of wood meal (wood flour) and wood wool (excelsior), however, are deserving of more attention. During 1929 these imports totaled 2,223,241 pounds valued at $38,996. Of this total, Sweden provided 2,122,916 pounds. The trade in these materials is generally increasing, but it is questionable whether American producers could expect to compete with the north European shippers who have the demand very well covered.

LUMBER TRADE PRACTICES

During the last few years, direct buying has been the most radical development in the methods of the importation of lumber into the South African market. In general, the local lumber trade is handled by a few large dealers, which have yards in more important centers, such as Cape Town, Port Elizabeth, East London, Durban, and Johannesburg. Some years ago the preponderant portion of buying was done in London, through the companies' London offices, brokers, or representatives of American firms. While this method is still followed to a very large extent, there has been a tendency to break away from the London "confirming" house and to order direct. This tendency is particularly prominent in purchases of American lumber; the transactions with north European shippers are easily and simply carried out in London, and purchases of Russian lumber are made through the London agents of the Soviet lumber exporters. It should not, however, be concluded that all north European purchases are made through London, for the inclination toward direct buying has also spread to the north European trade, where a really appreciable amount of trade is now being done on a direct basis.

In past years the export commission house in the United States was a conspicuous element in the South African lumber trade, acting sometimes as buying agents but more often as actual sellers or exporters of lumber. In the former case a small commission was charged. The general export commission house, which handled a multitude of different lines, has been slowly but surely passing from the lumber trade, and the house which is more or less specializing in lumber and is fully acquainted with the various ramifications of the trade has succeeded to most of the business.

The agent is identified with the local trade only in so far as there are firms which import certain hardwoods, cooperage, box shooks, dimension stock, etc. These products are usually taken in comparatively small quantities. The consuming industries stock sufficient supplies to carry on production activities for a period of time, and the trade has so developed as to allow the agent the major portion of this business.

Quite the reverse is true as regards the marketing of the large quantities of softwood lumber. The preponderant strength of the few large lumber importers has more or less definitely closed the large consuming demand to the small company or individual who is acting as an agent. While the State railways, as well as the mines, occasion very competitive bidding and offer an occasional opening for the agent, the fact that he is operating without any available stocks prejudices his chances of getting an order. As a consequence, the agent is inclined to disregard the big-business possibilities and turn his attention toward small-parcel ordering. It naturally follows that the lumber shipper who has granted an exclusive agency will probably find that his prospects have become limited.

Ignoring a very few furniture, carriage and wagon, and joinery plants, there is practically no direct importing by consumers. The two largest industries, the State-owned railways and the mines, prefer to draw upon the stocks of the local importers. The railways do import direct in the sense that the jarrah ties, received from Australia, are transported by Government boats and are put into direct use by the railways without any reference to an independent agent or importer. However, hardwoods for coach and car work are usually secured through tender. The mines, in a similar fashion, find it most convenient to draw upon available stocks. It is sometimes the case, nevertheless, that either the mines or railways may request a local concern to import especially for their requirements.

The South African lumber trade is so keenly competitive and so largely controlled by a few very strong firms that the trade association, as it is known in many other parts of the world, is quite unknown. Efforts have been made from time to time to draw the more representative firms into a more closely cooperative unit, but these efforts have proved futile. It might be mentioned in passing that while there is no association of lumber importers, it has, however, been possible to protect and maintain prices by virtue of a "gentlemen's agreement."

QUOTATIONS AND CONTRACTS

American lumber exporters should bear in mind that quotations should, whenever possible, be c. i. f. named South African port.

The vast interior of the Union constitutes a field of distribution which is fairly well marked out as regards the various ports. In other words, lumber which is being ordered for probable consumption in the western section of the Cape Province must be delivered to Cape Town. In like fashion, lumber for eastern Cape Province and the Orange Free State, and sometimes the Transvaal, should be billed to Port Elizabeth, East London, or Durban; Lourenco Marques also serves a fairly well-defined area. The exporter should be most careful to see that not only quotations, but actual shipments as well, cover that location specified by the purchaser.

Most shipments from north European sources rather closely follow the usual colonial form of shipping contract. A copy of a Swedish contract is as follows:

Telegraphic address_____ Contract No_____
Telephone_____

COLONIAL

SOLD _____
wood goods (marks to be agreed upon on signing contract) of about the specification stated below, ready for shipment_____
SPECIFICATION: _____
_____

Ends, 6 to 8 feet as falling at two-thirds price.

The goods are warranted to be of the sellers' usual shipment from port of loading, and seasoned for voyage to the colonies and to be delivered to the ship in accordance with the custom of the port, the sellers not being responsible for any deterioration occasioned by circumstances beyond their control after the goods have been sent alongside the vessel.

Ship room to be provided in due time by buyers with a customary number of working days for loading. Buyers undertake that six clear days' notice be given to shippers direct before arrival of any steamer to load under this contract, such notice stating steamer's and charterer's name and full loading orders to be in shipper's hands within the same time.

A margin of 10 per cent, more or less, however not exceeding 30 standards, to be allowed for convenience of chartering, but when several shipments are made under the same contract, such margin only to apply to the quantity by the last vessel.

Payment in cash, in Stockholm, less 2½ per cent discount, on receipt of and in exchange for shipping documents. Should any of the goods not be removed before the _____, buyers to pay as above against approximate invoice, the goods lying at the risk and from the close of the shipping season at the expense of the buyers, sellers not responsible for deterioration of goods so held over.

Property in goods to be deemed for all purposes, except retention of vendor's lien for unpaid price, to have passed to buyers when goods put on board.

In case the shipment of any of the goods be delayed or hindered by war, floods, fire, drought, ice, strike, lockout, or any cause beyond the control of the shippers, they shall not be responsible for any damages resulting to the buyers therefrom.

Marine insurance to be covered by_____.

All bills of lading signed to be sent to the buyers duly indorsed, invoice and specification to be supplied in triplicate.

In case the goods are sold "cost and freight" or c. i. f., the freight to be paid by the buyers as per charter, and the balance accepted for as above. Should any vessel, chartered under such contract, be lost previous to loading, sellers have the option of canceling the contract to such an extent upon giving immediate notice to buyers, leaving, however, the buyers to take the goods at a corrresponding f. o. b. price.

_____, 1930. _____, 1930.
_____ _____
As seller. *As buyer.*
_____
As agents.

GRADING OF AMERICAN LUMBER

Shipments of American softwood lumber are usually in accordance with the conditions of the American lumber-inspection bureaus which are in a position to issue inspection certificates. Disputes are more or less bound to occur in isolated instances, but the average importer recognizes the good faith of an official inspection certificate. Shipments from the United States have been made and will probably continue to be made by firms who have neglected to secure an inspection certificate. The value of such a certificate, however, can not be overemphasized, and shippers should remember that in case of a disagreement an inspection certificate, while not officially recognized, most certainly lends weight of evidence on their behalf.

The difficulties under which the South African importer operates in receiving lumber graded in accordance with both north European and American standards has led, in the past, to a certain amount of confusion and misunderstanding which has worked to the disadvantage of the American stock. However, recent developments have indicated the great possibilities of Douglas fir, the fine qualities and general utility of pitch pine are obvious, and local importers have made a special effort to acquaint themselves with American methods of grading. American shippers, on the other hand, should leave no stone unturned in explaining and defining the strict variations of quality which are included within a particular grade.

SIZES AND GENERAL CONDITION OF STOCK

One of the most serious complaints in the past against American lumber has been that seasoned stock arriving in South Africa is in many instances cut to scant dimensions. This fault, which actually becomes a most serious difficulty when lumber has been ordered for the joinery trade, has in many cases prejudiced the local importer against such lumber and has resulted in his buying European stock, which is, almost without exception, well up to specifications. This complaint against American lumber has, happily, been largely reduced of late. Arrivals during recent years have compared very favorably as to manufacture with the north European stock, and the prejudice against American lumber is rapidly disappearing. Well-manufactured lumber should and must be provided if the demand of the market is to be stimulated, and it is hoped that operators, when selecting lumber for South Africa, as well as any other export market, will make certain that this stock, after the proper allowance has been made for shrinkage during the voyage, will arrive in such sizes as to coincide with defined specifications.

In certain instances, it has been found that lumber, upon arrival, was infected with dry rot, or that sap stains and similar blemishes had developed. It must be pointed out that cargo vessels coming to this section of the world are subjected to extremes of temperature. It is, therefore, obvious that shippers should be most careful in seeing that stock, unless ordered green, is well seasoned.

MEASUREMENTS

Measurements are generally in cubic feet, cubic meters, or standards, and frequently local firms have difficulty in reading American

bills of lading because board-foot measure means little to a shipping clerk who has been trained in other units. Conversion tables may be obtained from the Lumber Division of the Bureau of Foreign and Domestic Commerce.

FINANCING LUMBER IMPORTS

In many instances direct payment is made to the shipper by an American bank or the branch of a South African bank in New York, while other bills may be paid through the medium of telegraphic transfer of funds. In the case when the actual shipper is an export commission house, this agent usually pays the debt as a domestic transaction and in turn draws upon the South African buyer on sight, 30 days, 60 days, or 90 days, the credit terms being arranged in accordance with the reputation and general acquaintance which exists between shipper and importer. Direct shipments are largely financed in a similar manner, the usual credit terms being 30 to 60 days sight, although in many instances 90 days sight is granted.

In addition to the financing of sales through the more direct methods, the American lumber exporter many times encounters an apparently anomalous arrangement by which goods are shipped to South Africa while the documents are sent to London, where payment is made. The method of payment very often occasions the use of a "confirming house," in the instance when the head office of the South African purchaser is not located in London.

The confirming house is an institution which assumes, to a certain extent, the financial obligations of a South African buyer. In some cases this agent is an export merchant, comparable to our export commission house, while more often the payer is a merchant banker. In any event, the usual process is to make shipments direct to the Union, while the documents for payment are sent to London. The confirming house usually has nothing whatever to do with actual shipping operations.

The origin of this institution is in the fact that in many instances the South African buyer does not have sufficient capital to finance his own operations adequately and has, therefore, turned to either an agent or a banker in England who has by previous arrangement contracted to handle this business for the South African principal. The buyer specifies the quantity, character, route, and port of delivery, shipment is made direct to him, while the documents are forwarded to London for payment.

The London house, on the other hand, may have several dozen South African firms for whom it "confirms" and makes payment for materials purchased. The confirming house is interested only in receiving the proper documents for execution and very seldom, if ever, has anything to do with buying. Each client of the confirming house is theoretically limited to a certain gross allowance over which the London agent will not confirm unless the outstanding balance has been paid up. These transactions actually amount to loans which are made by the English agent to the South African importer, in the sense that business up to the loan limit will be paid for, or confirmed, by the London house. The confirming house usually receives an interest rate of approximately 6 per cent on the average balance paid out on behalf of the African importer, plus a commission of the amount of business which is confirmed.

MARKET OUTLOOK

Future prospects of the South African lumber market seem to be that there will be an increased demand in all lines with the possible exception of furniture woods. The domestic stinkwood, yellowwood, etc., are in increased demand from the furniture manufacturers, although the importations of oak and teak show no indication of falling off. South African softwoods are of such poor quality and character as to offer practically no competition against the imported species for many years to come.

American exporters should always bear in mind that the lumber business in this area is closely held among a comparatively few strong firms, trade channels and practices have become firmly established, and success in South Africa is dependent largely upon the observance of the desired arrival date specified by the importer, strict and correct grading of stock, and a willingness to investigate any complaint.

IMPORT DUTY ON LUMBER AND WOOD PRODUCTS

The customs duties levied by the Union of South Africa are largely upon an ad valorem basis. The basis of the chargeable duty, and the basis for the purpose of a declaration or oath, which may at any time be required by law or regulation in relation to any question of such duty, is the domestic value of the goods, plus the extra cost of packing or packages for export, transportation to the port of shipment, and all other expenses incidental to placing the goods on board ship ready for shipment to the Union, provided that in no case shall the value, for purposes of duty, be less than the f. o. b. price of the goods to the importer, including agents' or buying commission in excess of 5 per cent. The determination of the domestic value shall be the market price at which, at the time of exportation, such or similar goods are offered for sale, for consumption in the country from which the goods are exported, to all purchasers in the usual wholesale quantities in the ordinary course of trade, including the cost of packages ordinarily used in those markets, but not including excise duties payable in that country.

The preferential British colonial tariff rate is accorded certain imports which originate in Great Britain and Canada. The customs charges applied to lumber and wood products shipped from the United States are as follows:

263. Boxes, wooden; empty or in shooks:	
(*a*) For packing fresh or dried fruits and dairy produce, eggs, and condensed milk manufactured in the Union	Free.
Fruit punnets	Free.
(*b*) For packing other goods and for other purposes	20% ad val.
266. Casks, wooden, empty or in staves	20% ad val.
270. Handles, wooden, for picks, shovels, mechanics' tools, and agricultural implements:	
(*a*) Shaped but otherwise in the rough	Free.
(*b*) Other	5% ad val.

272. Joinery:	
(*a*) Window frames, doors, and door frames, wooden (whichever is greater)	3s. 6d. each or 25% ad val.
(*b*) Wooden frameworks of houses, including sills, sashes, lintels, staircases, casements, and moldings	25% ad val.
273. Plywood (whichever is greater)	4s. per cu. ft. or 25% ad val.
275. Shingles	20% ad val.
276. Sleepers (ties), railway or tramway	3% ad val.
277. Staves, wooden, in the rough	Free.
278. Vats, wooden, for the manufacture of wines, and hogsheads of a capacity of 60 gallons or more, for the storage of wines and spirits	Free.
279. Wood:	
(*a*) Unmanufactured	3% ad val.
(*b*) Ceiling and flooring boards, planed, tongued and grooved, and parquet flooring	3% ad val.
Plus a suspended duty	17%
280. Wood meal, wood pulp, and wood wool	Free.

The actual operation of the preferential duties allows for only one example. Under item No. 279, section (*a*), duty-free preference is accorded materials from Canada and Great Britain.

Clear pine boards, shelving, poplar boards, etc., which have been planed, are not classed as unmanufactured wood and are, therefore, dutiable under item No. 335, which charges a duty of 20 per cent ad valorem. Planking for picture-frame backs, merely sawn but not cut to any particular shape or size, is classed under item No. 279 (*a*).

TRADE VARIATIONS IN GEOGRAPHIC DISTRICTS

CAPE TOWN

American Consul Cecil M. P. Cross, Cape Town

So far as the lumber trade is concerned, Cape Town is in many respects a separate economic unit from the rest of the Union of South Africa. It supplies a large surrounding territory with lumber, but the consumption there is somewhat small as compared with that of the large towns of the Transvaal. Cape Town is too far removed from those important markets to permit its merchants to compete for that trade.

Its requirements are, therefore, confined to the needs of its own territory. For this reason, most of the lumber imported is for dwellings and buildings rather than heavy structural timbers for the mines. A growing furniture industry exists in the district, however, and its requirements account for a considerable portion of the importations.

Broadly speaking, there are three types of lumber dealers in the district:

1. The first of these is the so-called big dealer who owns yards and carries stocks amounting at times to important quantities. These dealers seldom purchase through local agents, but deal through brokers in London or the United States and at times directly with the mill.

2. The second type is the manufacturer of furniture or other wooden articles who, during recent years, has developed the habit of importing direct from the mill. These firms very often purchase through local agents, but in one or two instances have established direct contact with mills that supply them regularly.

3. The third type is the manufacturers' agent, who carries no stocks but sells on the basis of specifications and prices, operating on a commission through the mill or export broker. These agents sell principally to furniture makers, the Government, particularly the railways, which are important consumers of timber, or to other consumers in a position to make sizeable purchases. Some of these agents represent London brokers, but most of the active firms have direct and exclusive agency arrangements with mills.

Approximately 70 per cent of the imports into the Cape Town district are derived from north European countries. North European pine is the wood most generally used locally for the parts of houses exposed to the elements, and also for flooring and other work for which easy working and low cost is essential.

Box shooks.—North European countries also supply practically all the box shooks used by the fruit growing industry. This box-shook industry is handled in a somewhat different manner than the rest of the timber trade, in that approximately 60 per cent of the purchases are now being effected through the fruit exchanges. These fruit exchanges function as brokers and place their orders either with local representatives or through brokers in London. Occasionally direct contacts are established with the north European mills, but this is exceptional.

Doors.—Doors, of which the north European countries until very recently supplied the greater part, are now being largely purchased from the Pacific Northwest. These purchases are, however, handled by the same firms and in the same way as lumber.

Douglas fir.—Douglas fir is being used to an increasing extent for the larger sizes of timbers. Important possibilities are thought to exist in this field for large sales, but an educational campaign would be necessary. An active representative of the industry stationed in South Africa could do much, particularly if supported by judicious advertising. North European firms, which are the chief competitors, have active representatives on the spot. Some of these are in the employ of the large lumber exporters and are proving highly effective in retaining their market.

Pitch pine.—Cape Town is not an important market for pitch pine. The principal consumer is the South African Railways. Small quantities are, however, used in the larger buildings for beams or similar work.

American oak.—American oak is one of the mainstays of the furniture industry in Cape Town. This industry is obliged to import practically all its lumber requirements, and the price of American oak is sufficiently low to secure its general use. Japanese oak, however, is making considerable headway.

Teak.—Teak from Burma and Siam is widely used in Cape Town for furniture and for window frames in better-class residences. In this latter field, however, it has suffered seriously in recent years by the introduction of steel window frames.

Miscellaneous woods.—Small quantities of miscellaneous woods, notably Japanese oak and various varieties of Philippine woods, are

now being used in the furniture industry. All of these, however, are imported in substantially the same way as American oak and other varieties, chiefly through manufacturers' agents representing mills and export brokers.

Jarrah.—An important volume of business is done by the South African railways in the importation of jarrah sleepers from Australia. These are purchased through agents of the producing companies located in South Africa, and deliveries are made by Government-owned vessels. Various attempts have been made to find substitutes, notably in Brazil, but at present jarrah wood is holding its place on the basis of price and durability.

Payments.—Comparatively few of the lumber importations into Cape Town are paid for in advance. The number of manufacturers' agents competing for the business not only has resulted in price cutting but has led to the granting of liberal terms. Most of the lumber is now purchased on the basis of sight draft on arrival of the shipment. The tendency has recently developed to demand the privilege of inspection before payment. This has been due to a number of shipments that have not come up to the specifications. This policy has naturally been resisted strongly by shippers who have suffered severely from purchasers refusing shipments and have been forced to sell them at very low prices when they were subsequently offered at a forced sale.

Shipping services.—One of the keys to the lumber situation in the Cape Town district is the shipping services. The Swedish service from northern Europe and, to a less extent, the Japanese steamers from the Orient have been powerful influences in maintaining the sales of their woods. The recent inauguration of an American steamship service from the Pacific is promising to have an important bearing on the situation, but more regular sailings and an American service from the Gulf are needed.

PROVINCE OF NATAL

American Consul Gaston Smith, Durban

Of the approximately 185,000,000 board feet of unmanufactured lumber and 50,000,000 board feet of dressed lumber and partly manufactured wood imported into the Union of South Africa in 1929, approximately 60,000,000 to 70,000,000 board feet of the former and 12,000,000 board feet of the latter were entered at the port of Durban. This lumber consists primarily of north European pine and spruce; southern pitch pine, Douglas fir, and white pine from the United States; white pine and spruce from Canada; jarrah, karri, and spotted gum from Australia; teak from India and the Straits Settlements; and oak from Japan and the United States.

Formerly occasional purchases were made by the Union Government through the High Commissioner for South Africa in London, but this method of obtaining supplies has been discontinued in so far as the lumber trade is concerned.

There are no branch offices of American lumber exporters in Durban, and no lumber is shipped on consignment. The greater part of the lumber trade in Durban is handled by a few important firms who have mills and joinery establishments and who also import and manufacture other building materials. These firms are also dealers and carry large stocks on hand, and have old established and widespread business organizations which successfully control the lumber trade of the district. There are also one or two smaller firms handling lumber, especially hardwoods, who also import direct on a smaller scale.

The controlling firms handling lumber, whose financial standing is said to be excellent, usually purchase cash against documents. Frequently they charter a vessel carrying a full load of lumber which may be partly discharged at various ports of the Union of South Africa.

These firms practically control the lumber trade of Natal. To a great extent they finance the building contractors, and they supply a large proportion of the lumber used by the various governmental departments and railways. It would be difficult and inadvisable for American export firms to endeavor to sell direct to the building contractors, as many of these are indebted to the local importers, and there is reason to anticipate a decline in the building trades of this district during the next two years.

Dealers in hardwoods usually purchase their lumber on confirmed credits through London or New York export houses.

The greater portion of the lumber imported is for structural building and is obtained from Baltic ports.

Southern pine from United States Gulf ports is used almost exclusively in the mines of the Transvaal and in railway-bridge construction, but cement and iron are rapidly displacing this lumber in bridge construction, as well as in the construction of buildings. Jarrah and karri are used for ties on railroads, and oak in cabinetmaking and interior finishings.

The principal imports of lumber from northern Europe consist of sawn and planed redwood (north European pine); box shooks (redwood—north European pine and whitewood—north European spruce); joinery, such as doors, windows, moldings, etc.; and various kinds of plywood—birch plywood from Finland and Russia, pine plywood from Norway and Sweden, alder plywood from Poland and Latvia, ash plywood from Russia and Latvia, and gaboon, oak, etc., from Poland and Latvia.

Whitewood (north European spruce) is also imported, but in smaller quantities, and then mostly in the form of Riga ends (short lengths). A usual specification for such ends is as follows, in the unsorted quality: 2 inches and up by 5 inches and up, 6 to 7 inches average width, in 5 to 9 feet only, 80 to 90 per cent square edged.

The bulk of the lumber imported from northern Europe, however, is redwood (north European pine), as this wood has been found to be specially suitable in this climate. In the building trade it has practically no competition, although for higher-class work Douglas fir takes its place. The principal countries from which the South African importers draw their supplies of this wood are Norway, Sweden, and Finland, especially the two latter.

The usual quality imported is the so-called "unsorted" quality, comprising first, second, third, and fourth qualities as falling mixed from the saw, for sawn goods, and the first three qualities as falling mixed for planed goods. In this connection may be mentioned, how-

ever, that the grading of sawn and planed goods is somewhat different, so that the first three qualities of planed mixed about equals the first four qualities of sawn mixed.

An ordinary specification of north European pine for the South African market is about as follows (a standard equals 1,980 board feet):

200 standards, 3 by 9 inches	Average length 16–17 feet.
50 standards, 2 by 9 inches	Do.
275 standards, 3 by 6 inches	Average length 15–16 feet.
75 standards, 2 by 6 inches	Do.
100 standards, 3 by 4½ inches	Do.
75 standards, 2 by 4½ inches	Do.
100 standards, 3 by 3 inches	Do.
225 standards, 2 by 3 inches	Do.
125 standards, 1½ by 4½ inches	Do.
15 standards, 2 by 7 inches	Do.
350 standards, 1 by 6½ inches t. g	Do.
150 standards, 1 by 5 inches t. g	Do.
50 standards, 1 by 4½ inches t. g	Average length 14–15 feet.
200 standards, ⅝ by 6½ inches t. g. b. c. b	Average length 15–16 feet.

The above specification is approximately what the bigger importers would take for a complete cargo for shipment "first open water" (Baltic Sea); that is, about June. Prices vary according to the composition of the specification, time of shipment required, country of origin, shipping district in the particular country, and other considerations.

As regards boxes, practically all fruit exporters, dairies, etc., get their supplies from northern Europe, as do numerous other South African industries importing box shooks.

PORT ELIZABETH

American Consul C. E. Macy, Port Elizabeth

The principal kinds of wood imported into the Port Elizabeth consular district are pine, Douglas fir, oak, jarrah, teak, spruce, poplar, mahogany, and California redwood. Pine is imported chiefly from Sweden, the United States, Norway, Finland, and Canada; oak principally from the United States and Japan; jarrah from Australia; teak from India; poplar and redwood from the United States; spruce from north European countries and Canada; and mahogany from British West Africa. The chief American woods imported are Douglas fir, pitch pine, soft pine, oak, redwood, and poplar.

A local firm desirous of importing lumber customarily gets quotations from agents or importers in South Africa or places the business through London houses. Quotations usually are on a c. i. f. basis and should include the usual commission, cash discounts, etc., allowed agents. Agents and brokers generally confine their saless entirely to recognized importers and avoid selling to smaller retailers and consumers; the usual selling commission for the agent, not including cash discount, is said to be about 2½ per cent for medium and small quantities and somewhat less on very large orders.

Lumber importers seldom act as agents for American exporters, as such a practice is not considered ethical. Agents and importers alike frown on any attempt to combine the two activities, and it is not advisable to do business in the Port Elizabeth district through so-called agent-importers.

There are only a very few local firms in a position to import complete cargoes of softwoods, these catering principally to dealers, but also supplying the larger consumers direct. There is no organization of importers or agents in the district.

Very little lumber is imported direct by consumers, and such importation of lumber would be considered unethical. Government requirements are handled through local firms, which are requested to submit bids for all materials and services needed. This is also true of the municipality.

No American lumber is imported on consignment. The commissions paid and terms granted in handling other than American woods do not differ materially from those mentioned above.

IMPORTS THROUGH PORTUGUESE EAST AFRICA

American Vice Consul W. Quincy Stanton, Lourenco Marques

In the following report figures have been given for the latest period for which statistics are available in each case and include the imports and exports as shown by the customs statistics of the Province of Mozambique (the State-administered portion of the Colony of Portuguese East Africa) and the territory of the chartered company of Mozambique. There are no available figures for the districts of Cabo Delgado and Nyassa, the area formerly administered by the now defunct company of Nyassa, but in any event the lumber traffic in those districts is negligible. As the Mozambique statistics for transit trade do not segregate lumber from "other goods," transit figures for the non-Portuguese areas in the interior of Africa have been based upon the customs returns of British South Africa. There are no figures available for British Nyasaland or the Belgian Congo, so that only a rough estimate may be made for these areas, although there is some trade with them through Beira, Portuguese East Africa, for their account, especially for the Katanga district of the Congo.

In the tables shown in this report, values in Mozambique gold escudos have been converted into dollars at $1.08\frac{1}{3}$, and values in pounds sterling at $4.86.

PRODUCTION AND DEMAND

The Colony contains some wooded land with growths suitable for timber, but as yet very little lumber has been cut. Detailed figures showing the extent of this area and the amount of uncut timber are not available. There are some very small woodworking shops in the Colony, manufacturing furniture from chamfuta wood (the so-called Mozambique mahogany), but the output of the principal furniture factory in Lourenco Marques, the leading town of the Colony, was only 629 pieces in 1928. Almost all the local lumber requirements are filled by imports.

The demand for lumber or lumber manufactures in the Colony is very small. There is practically no mining there, nor any manufacturing on a commercial scale. Railways and port works consume a large share of the wood used locally, with residential construction accounting for most of the remainder. The demand for wood manufactures for retail consumption is really restricted to about 1 per cent of the population (or only about 35,000 people out of 3,500,000), the white, "colored" (mixed blood), Indian, and "assimilated" Negro elements. This proportion is also applicable to residential demand.

The known figures for the transit trade with British South Africa plus an estimate for British Nyasaland and the Belgian Congo, added to the Mozambique imports of $500,000 and exports of $250,000, would indicate a total annual trade in lumber and lumber products in and through the Colony of Mozambique of somewhat less than $5,000,000.

About seven-eighths of the gross receipts of lumber and lumber manufactures are transit shipments for the interior, particularly for the Transvaal, Northern Rhodesia, and Southern Rhodesia. This international transit trade covers 83 per cent of the unmanufactured lumber receipts and 93 per cent of the manufactured, including partly manufactured. Disregarding possible shipments for Nyasaland and the Congo, the total transit trade to the Union of South Africa and the Rhodesias amounted to almost $4,000,000 in 1928. It is unlikely that the Congo and Nyasaland shipments greatly exceeded the total for Northern Rhodesia, which was only $9,000.

Principal ports.—The port of Lourenco Marques handles about two-thirds by value of the total lumber trade of the Colony, while the port of Beira, in the territory of the Mozambique Co., handles all but about 2 per cent of the remainder. The respective shares of these ports in 1928 are shown by the following table (excluding figures for Nyasaland and the Congo, if any, and the very small lumber traffic in Nyassa and Cabo Delgado).

LUMBER TRAFFIC OF MOZAMBIQUE IN 1928

[In thousands of dollars]

Item	Lourenco Marques	Beira	Other	Total
Imports	173	336	60	569
Exports	7	232	21	260
Transit	3,013	[1] 847	(2)	3,860
Total	3,193	1,415	81	4,689

[1] Including possibly some overland shipments in international traffic in British South Africa.
[2] None recorded; the amount is believed to be negligible, if any.

There was an increase of about 47 per cent in the total value of the Mozambique import and export trade in lumber in 1929 over 1928. This increase was due primarily to larger purchases for railway purposes, although there was a general increase in the imports of furniture and other wood manufactures. The comparative figures of the two years are shown in the following table.

MOZAMBIQUE'S FOREIGN TRADE IN LUMBER (EXCLUDING TRANSIT TRADE)

Item	1928		1929	
	Metric tons	Value	Metric tons	Value
Imports	11,040	$569,000	20,247	$948,000
Exports	25,683	260,000	17,196	270,000
Total	36,723	829,000	37,443	1,218,000

Origin and destination.—British Africa, principally the British South African territories, supplied about one-eighth of the lumber imports of Mozambique and consumed nine-tenths of its exports and about all of its transit trade. The Colony supplies a considerable quantity of firewood to the British interior, especially for the Rhodesias. In the Mozambique export figures it bulks large in tonnage,

but the value is very small. The import figures would indicate that the United States may have supplied about one-seventh of the total receipts of the Colony, including the transit trade. For rough lumber the proportion is estimated to be nearer one-fifth.

The customs authorities of the Province consider imports from or exports to the Mozambique Co.'s territory as foreign trade for statistical purposes. Similarly, the company authorities include trade with the Province in their import and export returns. These amounts have been shown in the tables where known. Trade with Nyassa and Cabo Delgado would be included with figures for "Other Portuguese possessions," while the trade with or through Portugal is indicated separately, but forms a part of the total foreign trade.

Rough lumber and manufactures.—In summary the total lumber traffic is divided between unmanufactured lumber (principally rough-sawn) and manufactured lumber (including partly manufactured) as follows:

CLASSIFICATION OF LUMBER TRADE OF MOZAMBIQUE IN 1928

[Values in thousands of dollars]

Item	Unmanufactured		Manufactured		Total	
	Quantity	Value	Quantity	Value	Quantity	Value
Imports.....metric tons	10,053	464	987	105	11,040	569
Exports.....do	25,667	256	16	4	25,683	260
Transit.....M feet	57,480	2,385	12,024	1,475	69,504	3,860
Total metric tons	35,720		1,003		36,723	
Total M feet	57,480		12,024		69,504	
Total value		3,105		1,584		4,689

Principal woods.—North European pine and spruce constitutes about 80 per cent of the rough-lumber imports and transits at Lourenco Marques, while the remainder consists largely of American southern pine with some American white pine. There are also some small lots of Indian teak and woods from the East, such as Australian jarrah and karri, and occasionally oak from Europe. At Beira, north European wood similarly leads, with American Douglas fir as a second major item. About four-fifths of the total trade in rough lumber is in deal sizes and the balance in board sizes.

TRADING METHODS

Branches and agencies.—In both Lourenco Marques and Beira the lumber business is largely handled by branches of the principal lumber firms in South Africa, with the head offices located at either Johannesburg or Durban. The local firms, as a rule, book no orders except for some small lots for local requirements, but even those small orders are often sent to their head offices for confirmation. They merely act as distributing agents. The head offices in the Union ordinarily obtain their supplies through their oversea buying representatives or, in some cases, from their head offices overseas, so that for practical purposes it is correct to state that lumber

importations into Portuguese East Africa result from sales made in British, American, and continental centers, principally in London or New York. At present there are no firms in either Lourenco Marques or Beira acting as exclusive representatives of American firms, and it would hardly be practicable to consider the colony as a field for direct sale by American exporters at this stage of its development. Even purchases by the Mozambique Government for its railway and harbor projects, or sales made for private industrial construction, have been conducted through local branches or agents for oversea accounts.

American lumber is not sold locally on consignment; all the imports are outright purchases with the terms of sale and credit handled by the head offices through London. The local agents are commonly without very definite knowledge regarding them, as their function is restricted to the carrying out of orders of the head offices. Some of the firms handling timber are merely commission agents, charging fees up to 5 per cent for unloading and forwarding lumber and maintaining small warehouses where minor lots may be kept from time to time, but the greater part of the business in the colony is controlled by five principal dealers in Lourenco Marques and three in Beira who maintain depot stocks. There is no organization of lumber dealers.

The agent-importer is unknown. Direct dealing with the exporter is not the practice, and it is not probable that such a method would be feasible, because most of the orders are from the Transvaal and there is not sufficient local business to enable a strictly local firm to carry on in the face of the competition of the established houses. The Johannesburg and Durban importers and their local agents all handle American lumber from time to time, but rarely through direct dealing with American exporters.

The lumber firms maintaining branches or agencies in Portuguese East Africa are in the habit of importing shiploads of northern European lumber and occasionally import pitch pine in shipload lots from America by direct charter from the Gulf ports.

Depot stocks.—The leading lumber importers in Portuguese East Africa maintain yard stocks of timber in Lourenco Marques and Beira, which are mostly destined for transit to the interior. The small amounts used locally are ordinarily filled from these bonded stocks by spot sales at either wholesale or retail and designated as "Imports for consumption" through arrangements made with the Mozambique customs authorities. This method is followed both in the Province and in the chartered company's territory.

The peak yard stocks at Lourenco Marques have been estimated at about 65,340,000 board feet, and stocks in Beria at about 15,840,000 board feet. These quantities are reached during the winter months (July, August, and September), as the shipments are received after the commencement of the open-water season in the north European countries, although smaller quantities are frequently received as late as October. During the period from about August to June the depot stocks are steadily reduced by shipments to the interior, as the peak stocks constitute almost the entire annual supply.

IMPORT AND EXPORT DUTIES

There are three separate authorities levying customs duties upon lumber and lumber manufactures in Portuguese East Africa—(1) the Province of Mozambique, (2) the government of the chartered company of Mozambique, and (3) the Union of South Africa and the Rhodesias.

The first two authorities impose both import and export duties, while the latter maintains customs offices at Lourenco Marques and Beira collecting import duties for the areas in British South Africa embraced in its customs zone, including the Rhodesias and Swaziland, which are of particular importance in the Mozambique lumber traffic.

In the Province lumber is dutiable under four different sections of the provincial customs tariff, but item No. 157 of Class IX is the most important for American trade. Under it raw timber (beams, planks, boards, rafters, etc.) and cut or sawn lumber are dutiable at 10 per cent ad valorem c. i. f. port of entry, Province of Mozambique. This rate applies to imports into Lourenco Marques for consumption in the colony. The rate at Beira on this class of lumber is 3 per cent, while the Union rates are the same as for direct imports through South African ports. The maximum import rate upon lumber or its derivatives in Mozambique is 20 per cent, and the export levies range up to 10 per cent for ebony shipped out of the Province.

SHIPPING FACILITIES FROM THE UNITED STATES

Lumber imports from America are handled by the two American shipping lines operating, one from the north Atlantic and the other from Pacific ports, while the occasional shipments from the Gulf are usually on foreign lines. Lumber transits through Lourenco Marques for the Transvaal and southern Rhodesia enjoy a distinct saving over Durban, while Beira is the natural port of entry for northern Rhodesia, Nyasaland, and the eastern Congo.

Freight charges on lumber from northern Europe, especially from the Baltic, are maintained at a low rate, as there are ample return cargoes from South and East Africa, but in recent years the American shipping lines have handled a sufficient amount of return cargo to overcome, to a great degree, the former differential in favor of European traffic.

OPPORTUNITY FOR AMERICAN TRADE

There is no fundamental difference in the handling of north European and American lumber. At present both are in the hands of the same British companies, and it is a matter of price, freight, and utility that is determining the preeminence of Baltic lumber. There is no underlying handicap to prevent a gain in American sales, both relatively and absolutely.

STATISTICS OF LUMBER TRADE

The following tables give the latest available information on the imports, exports, and transit trade in lumber of Portuguese East Africa:

IMPORTS OF LUMBER INTO PORTUGUESE EAST AFRICA DURING 1929

Country of origin	Metric tons			Value		
	Unmanufactured	Manufactured	Total	Unmanufactured	Manufactured	Total
Portugal and possessions	115	56	171	$9,000	$23,000	$32,000
Germany	746	138	884	31,000	23,000	54,000
United States	1,786	82	1,868	71,000	14,000	85,000
Finland	2,955	273	3,228	100,000	13,000	113,000
British Empire	1,889	[1] 4,665	6,554	78,000	[1] 226,000	304,000
Norway	734	25	759	22,000	2,000	24,000
Sweden	5,991	383	6,374	279,000	25,000	304,000
From other countries and sources not specified	336	73	409	19,000	13,000	32,000
Total	14,552	5,695	20,247	609,000	339,000	948,000

[1] Including 4,457 tons of railway sleepers valued at $168,000.

TRANSIT TRADE IN LUMBER THROUGH PORTUGUESE EAST AFRICA FOR BRITISH SOUTH AFRICA DURING 1928

Classification	Quantity, in thousands of cubic feet	Value, in thousands of dollars
LOURENCO MARQUES		
For Union of South Africa:		
Canes, rattans, and osiers	[1]	[1]
Unmanufactured, other	4,213	2,112
Planed and partly manufactured	809	370
Furniture	[1]	13
Other manufactures	[1]	518
Total	5,022	3,013
For Southern and Northern Rhodesia	[1]	[1]
PORT OF BEIRA AND OVERLAND [2]		
For Union of South Africa	[1]	[1]
For Southern Rhodesia:		
Unmanufactured	575	272
Planed and partly manufactured	192	102
Furniture	[1]	41
Other manufactures	[1]	423
Total	767	838
For Northern Rhodesia:		
Unmanufactured	2	1
Planed and partly manufactured	1	1
Furniture	[1]	3
Other manufactures	[1]	4
Total	3	9
Total, port of Beira and overland	770	847
Grand total	5,792	3,860

[1] Not recorded.
[2] $268.
[3] There is no record available of the trade handled overland, but it may be estimated as only a small fraction of the total.

EXPORTS (INCLUDING REEXPORTS) OF LUMBER FROM PORTUGUESE EAST AFRICA DURING 1929

Country of destination	Metric tons			Value		
	Unmanufactured	Manufactured	Total	Unmanufactured	Manufactured	Total
Portugal and possessions	267	6	273	$10,000	$4,000	$14,000
British Empire	16,798	78	16,876	244,000	11,000	255,000
To other countries and disposal not specified	43	4	47	1,000	404	1,404
Total	17,108	88	17,196	255,000	15,404	270,404

MARKET FOR DOORS IN SOUTH AFRICA

American Consul Cecil M. P. Cross, Cape Town

The demand for doors in South Africa is subject to greater differences between the geographical divisions than is the case with most of the lumber commodities. In the Cape Town district the fact that the principal countries are closer in time and distance has rendered it more difficult for a local industry to establish itself, and a greater proportion of the demand is, therefore, being supplied by imports than is the case of other parts of South Africa, particularly the Transvaal. The demand for doors is steadily increasing, however, throughout the country as the construction of dwellings is extended. With increased tariff protection, the local industry will undoubtedly be in a stronger position than has hitherto been the case.

The local industry is operating to the largest extent in the Transvaal, where it enjoys a substantial advantage in freight rates, as far as the interior market is concerned, because the imported door is classified in a higher rate schedule than is the raw material. This industry is active in Durban also and, to a less extent, in Port Elizabeth. It has made little headway in Cape Town, and even with the increased tariff protection it seems doubtful if it can make material progress.

Doors of special dimensions or of special types are being produced locally by carpenters and cabinetmakers. These are, however, expensive, and as most of them are constructed from north European lumber with its numerous knots, the result is not entirely satisfactory.

The product of the local industry in the Transvaal is estimated to amount to fully 60 per cent of the total consumption, and is an important factor commercially, except in Cape Town. It may experience a period of growth when the tariff protection becomes really effective.

Most of the towns have building regulations, however, that affect the situation. The scarcity of local timber has led to an unusually large use of cement and masonry in dwelling construction. The white inhabitants and the wealthier members of the other communities occupy substantial dwellings which are, as a rule, provided with imported doors. In the cities the lower classes also occupy houses of masonry, but in these cases and in the locations of the natives in the vicinity of the country towns the construction is of the simplest kind; as few doors as possible are used, and those often consist of merely planks nailed together.

The bulk of the demand comes, therefore, from the wealthier members of the population. It is anticipated that, as the status of the native and colored races improves, there will be gradual increases in

the demand, although as this develops it is probable that the local industry will develop to secure an increasing share of the market. Such an industry would, however, be an increasing customer for plywood and other lumber required in the manufacture of doors.

FOREIGN COMPETITION

Until comparatively recently practically all of the doors were supplied from Sweden and other European sources. The appearance of the American veneer panel door, produced on a large scale and offered at competitive prices, has led to the shrinkage of the share of the local market held by the Swedish door to probably less than 60 per cent of the total imports. The Swedish door is handicapped in appearance by the numerous knots and other blemishes. Swedish doors are still being imported for sale on a price basis. A few doors are also being manufactured in the United Kingdom from American raw materials and exported to this market. In some instances these manufacturers appear to be able to quote lower prices than the American manufacturers.

Price is probably more important in this market than is the case elsewhere. The rather poor appearance of the European doors, caused by pitch pockets and knots, is accepted without criticism; in fact, most of the doors in homes and residences are given several coats of paint for the purpose of concealing such blemishes. This practice persists even when it is unnecessary, as in the case of the American door. For better-class homes, however, quality is being given increasing consideration. None the less, a small difference in price is usually decisive.

TYPES USED

The types of doors most popular in this district are, on the whole, typical of South Africa in general, although there are minor differences in the relative standing of the styles. The most popular are two and three panel types, although doors of a single panel have been securing sales in Cape Town.

SALES METHODS

Doors are regularly carried in stock by several lumber dealers and merchants in this district. In some cases these dealers have established connections with manufacturers, although this arrangement is rather exceptional, because the dealers desire to leave themselves free to purchase where prices are most attractive.

For some time past small quantities of doors have also been sold to this market by export houses operating and working through agents in this district. The inability of most of these export houses to secure uniformity in quality and their failure in many instances to supply doors of the same quality as the sample have created a strong prejudice against purchases from this source. The probabilities seem that a firm not represented actively by an agent who can solicit orders, adjust such claims as may arise, and watch credits will be severly handicapped in competing against firms who are thus represented.

Some of the larger importers prefer undoubtedly to deal directly with the producer, in the belief that a saving in commission is thus made and that closer prices can be secured. On the other hand,

active personal solicitation is undoubtedly an important consideration and very frequently secures orders in the face of slightly lower quotations. There are, however, only one or two firms in South Africa of sufficient size to handle doors in large quantities. None of these firms purchases a sufficient quantity of doors at one time to make up a cargo lot, and it would appear that an agent would be desirable.

ADVERTISING

Advertising has been little resorted to in the case of doors. Well-informed opinion seems doubtful of its value, because of the absence of trade journals and the rather small proportion of the population interested. Extension work among the builders and architects by circularizing and personal interviews is regarded as more effective. The absence of representatives directly interested is at present one of the principal obstacles to this method.

Firms in this district are, as a rule, reluctant to open credits abroad. Most of the door shipments are financed by bank draft. For these, credits are frequently desired to cover the period during which the shipment is in transit.

IMPORT DUTIES

With a view of increasing the tariff support of the Transvaal door industry, the Minister of Finance, in introducing the budget for 1930–31, included among other tariff amendments an alleviation in the customs duty on doors, adding to the present provision of 25 per cent ad valorem an alternative of 3s. 6d. (87 cents) per door, whichever should be the greater. This change will affect primarily the Swedish doors. If anything, this change in the duty would appear to favor the American door as against those from other nations and to create a tendency to import the better-quality door, leaving the cheaper field to the local industry.

SOUTH AFRICAN WOODWORKING INDUSTRY

American Trade Commissioner Edward B. Lawson, Johannesburg

The beginning of an organized woodworking industry in South Africa dates back to about 1870, when a company commenced the sawing of forest timber at Knysna in the Cape Province. The manufacture of furniture goes back to 1879. Since these dates the industry has shown a consistent and steady development.

In treating of the industry as a whole, it should be pointed out that it includes a wide range of activities which are not always differentiated in Government statistics, and a considerable amount of overlapping is inevitable. Sawmills operate both as special projects and as supplementary or component parts of furniture factories, box-making plants, lumberyards, and similar organizations; carpentry and joinery plants may also manufacture furniture or coach bodies or do shop fitting; and other similar conflicting activities may occur; so it is, therefore, manifestly impossible to draw a distinguishing line between the various elements which make up the industry.

In addition to furniture factories, which are separately classified, there are some 230 woodworking establishments in the Union, the largest number (59) being recorded under the heading of carpentry and joinery, the second largest representation (57) being sawmills, followed by 31 packing-case manufacturers and 27 firewood-cutting establishments. The chief centers of each industry are shown below.

DISTRIBUTION OF WOODWORKING ESTABLISHMENTS IN SOUTH AFRICA

Industry	Private concerns					Government undertakings and railway workshops
	Cape	Natal	Transvaal	Orange Free State	Total	
Baskets	6	2	1	1	10	
Brushes and brooms	1	1	3		5	
Carpentry and joinery	30	8	17	4	59	1
Sawmills	18	17	20	2	57	7
Packing cases	11	9	11		31	1
Cooperage	8				8	
Wood carving	1	1	4		6	
Cork works	1				1	
Creosoting						1
Poultry houses and appliances			1		1	
Shop fitting	5	3	5		13	
Firewood cutting	8	10	9		27	1
Plywood	1	1			2	
Total	90	52	71	7	220	10

Many of the establishments are small, with only a few skilled employees and of small production; 106 are owned by individuals, 35 are partnerships, 78 are registered companies, 1 is cooperative, and 10 are operated by the Government.

As a group, the gross value of output in 1926–27 amounted to £1,856,749, about 59 per cent of which was contributed by carpentry

and joinery and sawmills combined. The dependence of this group on imported materials is revealed by the record of £270,132 worth of South African goods consumed during that year as compared with £1,163,249 worth of imported materials.

SOURCES OF LUMBER

The industry itself is greatly restricted by a limited timber supply, which comprises only a few woods suitable for ordinary commercial purposes. Efforts to grow timber and afforestation encouragement have somewhat reduced dependence on oversea sources of supply, but it is estimated that more than 90 per cent of the Union timber needs are still imported. The Union is a comparatively poorly timbered country, the scrub forests constituting by far the greater proposition.

According to the latest available statistics (1926), the Union contained some 4,925,713 morgen (10,393,254 acres) of indigenous forests and plantations combined. The largest area of private indigenous forests is recorded as being in the Transvaal, whereas the greater area of privately owned plantations is located in Natal, a considerable portion of which is devoted to wattle and not used for lumber purposes. The area of all plantations and indigenous forests in the Union (including Government and municipal plantations and forests), as returned at the agricultural census of 1926, is shown in the following table, which gives the area under different species in the plantations in each Province.

TIMBER RESOURCES OF SOUTH AFRICA

[In morgen [1]]

Province and class	Plantations						Indigenous forests	
	Conifers	Eucalypts	Poplars	Wattles	Others	Total	Dense or true forest	Scrub or dwarf forest
Cape:								
Private	11,423	9,491	5,712	7,929	5,610	40,165	59,612	778,891
Government	28,153	8,324	363	4,405	6,177	47,422	189,216	512,008
Municipal	1,083	759	23	823	184	2,872	134	1,435
Total	40,659	18,574	6,098	13,157	11,971	90,459	248,962	1,292,334
Natal:								
Private	3,184	7,806	767	105,393	2,965	120,115	25,577	40,383
Government	2,836	2,808	21	1,242	268	7,175	57,217	189,363
Municipal	18	444		2,606	20	3,087	640	
Total	6,038	11,058	788	109,240	3,253	130,377	83,434	229,746
Transvaal:								
Private	5,727	40,412	2,275	22,957	5,618	76,989	15,542	2,543,747
Government	5,292	3,860	32	275	642	10,101	39,578	114,222
Municipal	133	2,520	9	2	12	2,678		300
Total	11,152	46,792	2,316	23,235	6,273	89,768	55,120	2,658,269
Orange Free State:								
Private	3,294	19,229	3,880	916	4,450	31,769	338	12,483
Government	1,486	560	4		101	2,151		
Municipal	69	406	12	2	14	503		
Total	4,849	20,195	3,896	918	4,565	32,423	338	12,483
Grand total	62,698	96,619	13,098	146,550	26,062	345,027	387,854	4,192,832

[1] A morgen equals 2.116 acres.

Among the local indigenous species of timber used for various purposes are yellowwood, ironwood, assegai, sneezewood, boxwood, and stinkwood, but aside from the first mentioned the amounts consumed are very small and, for most general purposes, the industries turn to imported woods. As planted eucalypts come into use on an increasing scale, imports will tend to decrease, although it is estimated that it will be fully a decade before any great result can be accomplished. These at present are, as a whole, far inferior and very difficult to season.

PRODUCTION

The following table shows the production of the sawmills and various woodworking industries in South Africa.

PRODUCTION OF SOUTH AFRICAN WOODWORKING INDUSTRIES

Item	1925–26	1926–27
SAWMILLS		
Rough-sawn timber	£119,466	£114,594
Furniture wood	8,115	8,505
Wagon and cart wood	87,887	96,756
Railway coach and truck wood	304,595	200,879
Mine props and fencing poles	33,772	16,352
Sleepers	34,029	31,509
Firewood	22,778	19,546
Other wood	9,902	2,399
Boxes and packing cases	7,775	10,441
Building and joinery material	99,109	103,304
Other articles manufactured	33,124	56,823
Amount received for sawing and repair work for customers	30,734	42,358
Total value of articles manufactured and work done	791,286	801,466
FURNITURE FACTORIES (INCLUDING CHAIR AND MATTRESS FACTORIES)		
Value of materials used	875,832	876,806
Value added to materials	996,131	1,029,595
Value of articles manufactured	1,871,963	1,906,401
COOPERAGE, PACKING-CASE, AND WOODEN BOX AND TRUNK FACTORIES		
Value of materials used	143,670	146,957
Kegs	4,830	7,069
Casks	15,692	19,786
Butter boxes	44,685	42,735
Other articles manufactured	235,233	233,350
Total value of articles manufactured and work done	330,702	326,452
COACH AND WAGON WORKS		
Wagons	215,948	168,273
Trolleys and vans	31,994	45,336
Cape carts and buggies	39,711	----------
Spiders and surreys	1,994	----------
Farm carts	26,906	----------
Other vehicles	26,179	66,656
Mechanically propelled vehicles (bodies)	50,151	64,315
Other articles manufactured	38,003	41,906
Repair work for customers	492,700	418,856
Total value of articles manufactured and work done	923,576	805,341

WOOD-USING INDUSTRIES

The Union of South Africa has experienced a substantial industrial expansion during the past several years, especially in those projects dependent on the use of raw materials obtainable within its own borders. The sawmill operations, relying on indigenous forests, have not experienced an expanding movement, but the woodworking branch has recorded a healthy development. Either directly or

indirectly, both are influenced by the limitations of population and the demands of mining and other industries. The large native group still retain many of their primitive living habits and, as a class, do not greatly affect the total consumption of woodworked products. The furniture industry has, under effective customs protection, developed into one of the major industrial pursuits of South Africa, supplying a considerable share of the domestic wants and affording employment to a fair number of persons. The building program of the Union has been actively prosecuted for several years, and the subsequent requirements of lumber, trim, doors, etc., has been reflected in the timber trade and woodworking establishments. Those industries are the largest patrons of the sawmill group, and many of the local mills are dependent entirely on that market for the consumption of their annual production.

According to the latest available statistics of mine purchases, a total business in timber and lumber of over £1,000,000 was recorded in that line in 1927. The particulars as to the character of materials supplied are as follows:

LUMBER PURCHASES OF SOUTH AFRICAN MINES

Articles	1926	1927
Building material (ceilings, floorings, doors, windows, etc.)	£18,610	£20,543
Douglas fir, pitch pine, etc.	262,730	281,672
Mining poles and logging	603,815	566,065
Deals	75,687	75,674
Other	60,866	57,295
Total	1,024,708	1,001,249

The railways are important consumers of timber, and although they are somewhat dependent on imported ties, efforts are continually being made to utilize local species for that purpose. To date, however, experiments along those lines have not been notable successes and, in fact, the report of the general manager of railways and harbors for the year ended March 31, 1928, points out that the use of some 87,000 yellowwood ties purchased from woodcutters in the Knysna and Storms River districts was not an economical venture. These ties are creosoted before being placed in the track, by which time their cost, in comparison with the c. i. f. cost of imported ties, is as follows:

COST OF RAILWAY TIES IN SOUTH AFRICA

Description	South African yellowwood	Imported	
		Jarrah	Steel
	s. d.	s. d.	s. d.
7 feet	11 3	8 9½	----------
6 feet 6 inches	9 9	6 0	5 8 4 11½
5 feet 6 inches	8 3	4 1½	3 5½

It will be seen that the prices of the yellowwood sleepers compare unfavorably with those of the other sleepers used. Moreover, the average life of a yellowwood sleeper, 12 to 15 years, is considerably

shorter than that of either a jarrah or a steel sleeper, the respective approximate length of service given by each being 16 to 20 years and 30 to 35 years. A committee consisting of railway officers and representatives of the forest department is now investigating the comparative values of different species of South African timbers used for sleepers and their adaptability for various other commercial purposes.

In addition to the substantial number of railway sleepers of South African woods furnished Government stores and the employment of certain woods for coach paneling, etc., there is, according to statistics contained in the official agricultural census of 1926, a fair resort to Government, municipal, and private timber plantations for lumber supplies in connection with other industrial and general enterprises. The following summary indicates the demand for such purposes during the year ended August, 1926 (the latest period for which figures are available) on Government, municipal, and private supplies.

USE OF SOUTH AFRICAN WOODS

Plantations and indigenous forests	Railway sleepers	Mine props	Wagon wood	Timber for industrial purposes	Timber for non-industrial purposes	Fuel and charcoal wood	Charcoal manufacture
	Number	*Tons*	*Cubic feet*	*Cubic feet*	*Tons*	*Wagon loads*	*Tons*
Private	75,446	250,007	116,187	641,180	63,540	186,142	8,376
Government	32,705	13,311	231,967	801,795	79,072	50,957	92
Municipal		4,530		58,920	1,812	6,774	
Total	108,151	367,848	348,154	1,501,895	144,424	243,873	8,468

At one time the fast-growing export trade in fruit was regarded as providing an important potential outlet for boxes made in South Africa, and extensive plans for a sizable industry, supported to a large extent by the fruit growers' requirements, were contemplated. This important trade is, however, now supplied to a considerable extent by oversea softwood producers. At the present time the question of price seems to be insuperable.

Several other industries use substantial quantities of lumber for packing boxes, among which are the dairy-products packers and candle manufacturers. This latter group has been a profitable customer for Baltic shook producers, but lately has been investigating Rhodesian sources of supply. A Northern Rhodesian mill is producing a light wooden case for special use in the candle industry, which industry at present is estimated to import from 500,000 to 600,000 wooden boxes annually. The cases turned out by the Rhodesian mill are constructed with tops, bottoms, and sides of mgongo, a very light wood, and ends of sap nukwa, both being timber native to Northern Rhodesia. The reputed superior nail-holding qualities of sap nukwa accounts for its use as end wood. A trial order for 1,000 cases was placed, and the price quoted after a rail haul of several hundred miles compares favorably with the price of imported North European cases laid down in South African ports.

In addition to meeting building and industrial demands of the Union, some little trade in wood products is conducted with near-by

territories, but this is negligible. On the whole, the field for the sale of timber and wood products turned out in South Africa is decidedly small and although the Union is capable of supporting a number of relatively small establishments, large mills and an extensive, well-equipped woodworking industry would hardly be justified. In comparison with the average-sized plant in the United States, South African plants appear very small.

SAWMILL INDUSTRY

Sawmill operations, limited by sparse growths of commercial timbers, have never assumed a rôle of major importance in the Union's industrial community, although during the uncertain World War period a marked temporary increase in activities was recorded. It is impossible, on the basis of available records, to indicate the trend of sawmill activity later than 1923–24, in which year census changes were put into force. The 1926–27 industrial census figures show that at that time there were 64 sawmills, including plants operated by individuals, Government or local government undertakings, and railway workshops, and in considering all industrial census figures it should be borne in mind that it is the practice to include in the census returns all organizations employing three or more hands. Fifty-seven of the total number of establishments were controlled by private enterprise.

In analyzing the census statistics for the complete group of sawmills from 1923 to 1927 it is evident that there has been a definite falling off in activity. In 1923 there were 70 sawmills, employing 2,441 persons, with an annual production value of £918,957, whereas four years later six sawmills ceased operations and the remaining mills, employing only 1,567 persons, recorded a reduction in value of production to £801,466, not an alarming falling off but indicative of a lack of growth. The value of machinery, plant, and tools shows a slight but noteworthy gain—from £161,358 to £172,494.

The World War lent a definite impetus to sawmill operations in South Africa, since important oversea sources of timber were cut off and energetic attention was paid the utilization of local woods. A return to normalcy found the industry overdeveloped from the viewpoint of local needs; sharp retrenchment was practiced and the inevitable postwar reaction was encountered. The official census figures do not truly reflect this movement, as the change in classifications did not occur until 1923–24, after the full force of deflation had been spent, and the latest figures apply to the industry at its normal strength and capacity.

The privately owned and operated mills employ a large percentage of cheap native labor, there being about 70 per cent of that type, whereas the Government-operated plants employ only about 17 per cent native help. The average wages paid, based on the number of employees and amount of salaries and wages paid in 1926–27, were approximately £217 for Europeans and £49 for non-Europeans per year. Natives are utilized extensively for manual labor, especially in connection with privately owned plants.

Under the classification of sawmills also come plants engaged in sawing imported timber, in many instances connected with large

lumberyards and woodworking establishments, and the classification is not limited to plants engaged in the primary operations only. The group as a whole handles a fair amount of South African timber, but records reveal that imported materials are used to a far greater value. However, it must be recognized that this import value is built up chiefly by Government use of imported woods, which are higher priced than local timbers.

An analysis of the following table will show the relative dependence of the mills on native and imported timber.

MATERIALS USED BY SOUTH AFRICAN SAWMILLS

Class and origin	1925–26	1926–27
Rough timber:		
South African	£98,025	£105,555
Imported	16,052	96,645
Sawn timber:		
South African	50,534	44,413
Imported	107,304	118,339
Other wood for joinery work:		
South African	4,815	800
Imported	193,791	43,976
Other materials	17,882	14,195
Total:		
South African	176,482	157,864
Imported	311,921	332,102

This table also serves to indicate some of the forms in which mills receive the timbers they handle. In the case of primary mills the local timber comes up in log form, whereas the imported items usually arrive rough sawn or squared, conditions which affect the types of machinery employed to handle the timber.

Logging methods employed are for the most part antiquated; oxen are extensively used, and modern methods common to many operations in the United States are unknown. Use of logging railways is small; they are relatively more extensive in Rhodesia than in the Union. The primary mills are established close to the timber sources, and cutting, slow as it is, is carried on close to the established plant. The distance of these mills from the timber plots is seldom more than 10 miles, but most of the mills connected with yards and specializing more or less in semisawn timber are usually in the larger cities, located considerable distances from the local supplies. South Africa is extremely deficient in waterways and floating as a form of transportation is ordinarily not possible.

The mills usually saw the logs into planks, which are stacked in the open for seasoning, as kiln drying is relatively little developed. Poles and mine props are often cut to length and shipped at once to the mine property or near-by yards, where they are piled in the open until used. Railway ties follow a similar channel to the railway yards and shops. The more highly specialized materials, of course, receive a more particular treatment.

SEASONING OF LUMBER

Open-air curing is general, and it is believed there are not more than four or five kilns in operation. There is little demand for additional facilities, although it is understood that one of the largest private woodworking establishments has been considering a kiln installation. The Government has taken the most pronounced steps of any of the wood-using industries in the matter of wood seasoning and kiln operations, and experiments are being carried out with a view to improving the value of both local and imported woods used by the railways, public works, and other departments. High-standard kilns and specially seasoned wood, suitable to use in piano and airplane manufacture and the like, are not in demand. A 6-chamber kiln owned by the South African railways and in operation since May, 1927, handled during the eight months in operation in that year only slightly more than 12,000 cubic feet, but it is expected to perform increasingly beneficial services in connection with imported and native woods used by the railways each year.

It is said that imported timber frequently arrives with a higher moisture content than is desirable, and to reduce the moisture content after the timber is cut, by the old method of natural air drying, took from six months to two years. By the hot-air method now employed, it is possible to season such timber in a period varying from a week to two or three months, such period varying according to the initial moisture content, thickness, and hardness of the wood. Moreover, under the old method, considerable valuable space was occupied in the sawmill for the seasoning of timber, and a large amount of capital, represented in the value of the timber, lay idle for lengthy periods.

Apart from these considerations, the air-drying frequently resulted in the timber becoming surface dried only, and consequently when it was cut into small sizes distortion and splitting occurred, conditions militating against the extended use of South African woods. With the new process the timber is dried out evenly throughout its bulk, the moisture content being regulated to about 7 to 10 per cent, which has been found to be the most suitable for the climatic conditions of the country. The volume of timber seasoned by the administration during eight months ended December, 1927, was as follows:

	Cubic feet
Imported timber:	
Teak	5,036
Pitch pine	4,305
Baltic deal	1,180
South African timber:	
Chemnen	425
Kajatenhout	1,165
Total	12,111

The bulk of the South African indigenous timber seasoned is being used, with considerable saving to the administration, for coach paneling and panel framing.

Sawn timbers of local mills are received by the woodworking plants or lumber yards either as rough-sawn boards or as rough-squared timbers, suitable for roller-carriage operations. A substantial amount of the imported timber arrives in port as rough-sawn planks, but semifinished wood products of various types are imported in quantities and completed in local plants.

WOOD UTILIZATION

There is some appreciation of the principles of wood utilization, and general wastage is not high, but the systematic or scientific application of the various principles is not practiced on a wide scale. The scarcity of local wood and the high cost of imported lumber direct attention, to a certain degree, to the advantage of waste prevention, but the industry as a whole is not run on a high plane of efficiency. The Government operations and some private plants are interested in the activities along such lines in the United States. Little attention is paid the kerf, and some saws of sizable gage are in use. A small part of the sawdust produced in sawing operations is used by a local explosive plant in the manufacture of wood meal, and another local industry is reported to be contemplating the manufacture of composition-board flooring, using sawdust as one of the important constituents.

FURNITURE INDUSTRY

The one branch of the woodworking industry which, perhaps more than any other, has shown steady progress is the manufacture of furniture. Many reasons have been advanced to account for this, among which are the following:

(1) The system of installment buying, enabling wage earners to furnish their houses on a monthly installment scheme involving small payments.

(2) The manufacture of quantities of cheap furniture, the life of which is comparatively short.

(3) An increasing demand from the native population.

The furniture industry produced articles to a value greater than any other industrial enterprise included under the general heading of woodworking plants in 1926–27, recording a total value of articles produced (including manufacture) amounting to £1,906,401.

Aside from leading in the total value of products, it also ranks high in the matter of value added to material, on account of the more refined processes of operation. Under the stimulus of a protective tariff the industry has developed rapidly, and it is now estimated that 90 per cent of the local furniture needs are supplied by South African furniture plants.

A considerable amount of imported lumber is used by the industry, but some local woods are utilized. Of these the more important are stinkwood, yellowwood, cedar, and lemonwood. The two principal handicaps to the utilization of South African furniture woods are that only 1 of the 63 varieties, yellowwood, is found in quantity in any one locality, and that the manufacturers wish to buy seasoned wood while the lumbermen want to sell as soon as the trees have been felled. Bentwood chairs are also manufactured locally, but are now finding keen competition from European pre-war sources of supply in spite of dumping duties enforced.

Under the heading "Furniture factories (including chair and mattress factories)," 179 establishments are registered, which used in 1926–27 some £876,800 worth of materials, £828,308 worth being imported. The value of machinery, plant, and tools has been placed at £135,494, which, when regarded in conjunction with the increase in employees, horsepower, light, fuel, and power, as well as the development in production, indicates that the industry is growing. The small valuation of plant, tools, and machinery points to the relatively small individual operations common to the industry and the lack of extensive equipment.

There have sprung up many small shops, hardly more than carpenter shops and offspring of furniture stores, which qualify as factories by employing three or more hands. Of the 161 plants engaged in making furniture or in cabinetmaking only 4,796 persons are employed, or an average of 29 to the plant. Of the total recorded, only 2,382 are Europeans.

OTHER WOODWORKING INDUSTRIES

The coach and wagon works of the Union have been rather well engaged during recent years, but the year 1926–27 showed a slight falling off in total production value. The reduction occurred chiefly in the number of cape carts, buggies, spiders, surreys, wagons, and farm carts produced, but that loss was offset to some extent by increases in bus bodies, trolleys and vans, and other vehicles. There were 262 private establishments engaged in making various types of wagons and coaches and eight Government or railway undertakings, the combined machinery and tool value of which amounted to £88,383 only. There are no separate statistics which show the type of power used by this group of plants, but it is believed that the greater number are operating electric motors on purchased power with internal-combustion engines as another popular source of power. Cape Town and Johannesburg are important centers of production, with Durban and Port Elizabeth also claiming attention. Official statistics show 174 plants in the Cape Province, 75 in the Transvaal, 35 in Natal, and 28 in the Orange Free State.

South African timber is in good favor; only about 42 per cent of the annual supply comes from abroad, and in manufactured wooden parts the trend toward South African products is even more pronounced. In the larger sizes of naves, hubs, and spokes the local article has the bulk of the trade, whereas a few years ago all such material was imported. Spokes made of assegai wood in such standard sizes as 1½ and 3 inches are used, and 13-inch flat-crown hubs are popular. In the large sizes of hubs, from 10 to 13 inches, it is estimated that three domestic hubs are sold to every one of the imported. The imported lines are the smaller-size naves, hubs, and spokes, as well as rims, wheels (including wheels in parts), shafts, and bows.

The 39 establishments engaged in manufacturing packing cases, wooden boxes, wooden trunks, and cooperage, with machinery, tools, etc., valued at £36,698, continued operations at about the annual average, with no marked changes. With the establishment of new industrial enterprises, there is an increasing demand for wooden cases. At the same time, supplies of suitable native timber are insufficient. The best timber is grown in the coast belt, but the cost of railage practically precludes its use for such purposes in the Transvaal. Brush and broom manufactures have registered a falling off, due to heavier brush importations, and the industry is greatly handicapped by the scarcity of suitable native timbers. In carpentry, joinery, etc., employers are inclined to extend their factories and operations and employ more tradesmen.

○

MSH 24?23

END OF
TITLE